



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,610	02/01/2007	Hiroaki Nagano	SON-3026/SOH	6525
23353	7590	09/15/2008	EXAMINER	
RADER FISHMAN & GRAUER PLLC			HSIEH, PINO Y	
LION BUILDING			ART UNIT	PAPER NUMBER
1233 20TH STREET N.W., SUITE 501			2618	
WASHINGTON, DC 20036			MAIL DATE	DELIVERY MODE
			09/15/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,610	<b>Applicant(s)</b> NAGANO ET AL.
	<b>Examiner</b> PING Y. HSIEH	<b>Art Unit</b> 2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 21 August 2008.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-3,5-14 and 16-18 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 1-3,5-7,9-14 and 16-18 is/are allowed.
- 6) Claim(s) \_\_\_\_\_ is/are rejected.
- 7) Claim(s) 8 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 20 December 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

1. This application is in condition for allowance except for the following formal matters:
2. Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

***Response to Amendment***

3. The amendment received on 8/21/08 has been entered.
4. In view of the amendment received on 8/21/08, the 35 U.S.C. 103 rejection of claims 1-3, 5-14 and 16-18 is withdrawn.

***Allowable Subject Matter***

5. The following is an examiner's statement of reasons for allowance: The present invention is directed to a wireless signal switching circuit for switching a plurality of transmitter and receiver signals having different frequencies. Each independent claim identifies the uniquely distinct features: regarding claim 1, the phase rotating means comprises the inductor having the other end connected to the common input and output terminal of the diplexer, a first capacitor connected between one end of the inductor and a reference potential node, a second capacitor connected between the other end of the inductor and the reference potential node, a first switch means having one end connected to the other end of the inductor, and a third capacitor connected between the

other end of the first switch means and the reference potential node, and has the characteristics that a circuit defined by the inductor and the first to third capacitors imparts a phase rotation of 90 degrees to the phase of the signal of the frequency component supplied to the first signal route switching means when the first switch means is activated and that a circuit defined by the inductor and the first and second capacitors attenuates the harmonic component of the signal transmitted by the second communication system when the first switch means is de-activated. The closest two prior arts, AAPA (applicant's admitted prior art, fig. 1) discloses a first signal route switching means; and a second signal route switching means; Yrjölä et al. (U.S. PATENT NO. 5,521,561) disclose a phase shift PS as disclosed in fig. 6 and an inductor being connected between the one end connected to the antenna terminal, either singularly or in combination, fail to anticipate or render the above features obvious.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PING Y. HSIEH whose telephone number is (571)270-3011. The examiner can normally be reached on Monday-Thursday (alternate Fridays) 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. Y. H./  
Examiner, Art Unit 2618

/Nay A. Maung/  
Supervisory Patent Examiner, Art  
Unit 2618